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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,355	10/29/2001	Shinobu Togasaki	10002673-1	2701

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EXAMINER

ANYA, CHARLES E

ART UNIT PAPER NUMBER

2194

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/020,355	TOGASAKI, SHINOBU	
	<b>Examiner</b>	<b>Art Unit</b>	
	Charles E. Anya	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-19 and 23-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-19 and 23-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
**WILLIAM THOMSON**  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-6,8-19 and 21-32 are pending in this application.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1,10,27 and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, the limitation "...determining, at the default one of the front-end servers, whether the attribute-based category associated with said received transaction is assigned to the default front-end servers, and if it is not, establishing an association between i) the attribute-based category of the received transaction and ii) the identified front-end server..." is not described in figure 7 (Step 720) of the instant application. As the Examiner read it (specification page 20 lines 5-31), when it is determined that a transaction is not assigned to a front-server or there is no available front-server, a default front-server is selected to process a request/transaction, which is different from the invention as claimed.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-6-8,10-18 and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,128,657 to Okanoya et al. in view U.S. Pat. No. 6,092,178 to Jindal et al. and further in view of U.S. Pat. No. 5,864,679 to Kanai et al.**

6. As to claim 1, Okanoya teaches a method for routing a transaction to a front-end server (figures 1-5/15-17), comprising: identifying at least one attribute-based category for said transaction (S52 "...search key..." Col. 11 Ln. 8 - 21), identifying at least one of a plurality of front-end servers to process said transaction based at least in part on said identified attribute- based category of said transaction (S54 "...selects some candidate servers..." Col. 11 Ln. 19 – 21); at least in part on said front-end servers being assigned to execute transactions corresponding to said attribute-based category (Col. 11 Ln. 59 – 67); when at least one of the front-end server is identified (S54 Col. 19 – 21) and routing said transaction to one of said at least one identified front- end servers (S57 Col. 11 Ln. 36 – 39).

Okanoya is silent with reference to when no front-end server is identified, (i) routing said transaction to a default one of the front-end servers; (ii) determining whether the transaction is associated with a new attribute-based category, and (iii) assigning the new attribute-based category to the default one of the front-end servers.

Jindal teaches when no front-end server is identified, (i) routing said transaction to a default one of the front-end servers ("...a default server..." Col. 7 Ln. 19 – 36).

It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Jindal and Okanoya because the teaching of Jindal would improve the system of Okanoya by providing a process for optimally selecting preferred server based on load balancing policies (Jindal Col. 3 Ln. 20 – 25).

Kanai teaches determining when said identified attribute-based category is new and assigning said new attribute-based category to at least one of said plurality of front-end servers (Col. 14 Ln. 56 – 67, Col. 15 Ln. 1 - 25).

It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kanai, Jindal and Okanoya because the teaching of Kanai would improve the system of Jindal and Okanoya by providing a transaction routing unit operated by deterministic algorithm which selects optimum transaction processor (Kanai Col. 15 65 – 67).

7. As to claim 2, Okanoya teaches a method as in claim 1, further comprising assigning said at least one attribute-based category to said transaction (S52 "...search key..." Col. 11 Ln. 8 - 21).

8. As to 3, Okanoya teaches a method as in claim 2, wherein assigning said at least one attribute-based category to said transaction comprises associating a tag with said transaction (“...character string...” Col. 12 Ln. 1 – 5, Ln. 35 – 42).

9. As to claim 4, Okanoya a method as in claim 1, wherein identifying said at least one front-end server comprises comparing said attribute-based category for said transaction to assigned attribute-based categories for said plurality of front-end servers (Key 75a Col. 11 Ln. 59 – 67, “...comparing...” Col. 16 Ln. 61 – 67).

10. As to claim 5, Okanoya teaches a method as in claim 1, further comprising determining whether said at least one front-end server is available for processing said transaction (S54-S56 Col. 11 Ln. 22 – 39).

11. As to claim 6, OKanoya teaches a method as in claim 1, further comprising rerouting said transaction to another of said plurality of front-end servers when said identified server refuses said transaction (S55 Col. 11 Ln. 26 – 33).

12. As to claim 8, Okanoya teaches a method as in claim 1, further comprising notifying a workload manager of said at least one front-end server assigned to said new attribute-based category (“...back...” Col. 11 Ln. 59 – 67).

Art Unit: 2194

13. As to claims 10 and 11, see the rejection of claims 1 and 2 respectively.

14. As to claim 12, Okanoya teaches an apparatus as in claim 10, wherein said attribute-based category is based on at least one "real" attribute of said transaction (Col. 11 Ln. 59 – 67).

15. As to claim 13, OKanoya teaches an apparatus as in claim 10, wherein said attribute-based category is based on at least one "perceived" attribute of said transaction ("...name..." Col. 12 Ln. 1 – 5).

16. As to claim 14, Kanai teaches an apparatus as in claim 10, further comprising a user table for assigning said at least one attribute-based category to said transaction (Col. 15 Ln. 45 - 62).

17. As to claim 15, see the rejection of claims 5 and 6 above.

18. As to claim 16, Okanoya teaches an apparatus as in claim 10, further comprising program code for assigning a number of attribute-based categories to each of said plurality of front-end servers, wherein said program code for routing said transaction to one of said identified front-end servers routes said transaction according to said assigned attribute-based categories (Col. 11 Ln. 59 - 67).

Art Unit: 2194

19. As to claim 17, Kanai teaches an apparatus as in claim 16, wherein said program code for assigning at least one attribute-based category to each of said plurality of servers bases the assignment at least in part on an affinity of transaction attributes (figure 23 Col. 18 Ln. 51 - 67, Col. 19 Ln. 12 - 37).

20. As to claim 18, Okanoya teaches an apparatus as in claim 16, further comprising a workload manager table for recording said assigned attribute-based categories (State Manager 111 Col. 11 Ln. 59 – 67).

21. As to claim 23, Okanoya teaches a method as in claim 1, wherein identifying said at least one attribute-based category for said transaction comprises identifying a "perceived" attribute of said transaction ("...name..." Col. 12 Ln. 1 – 5).

22. As to claim 24, Okanoya teaches a method as in claim 23, wherein the identified "perceived" attribute is the computer originating the transaction ("...name..." Col. 12 Ln. 1 – 5).

23. As to claim 25, Okanoya teaches a method as in claim 23, wherein the identified "perceived" attribute is the user originating the transaction ("...name..." Col. 12 Ln. 1 – 5).



Art Unit: 2194

24. As to claim 26, Okanoya teaches a method as in claim 23, wherein the identified "perceived" attribute is a class of users from which the transaction originates ("...name..." Col. 12 Ln. 1 – 5).

25. As to claim 27, Kanai teaches determining, at an identified front-end server, whether the attribute-based category associated with said received transaction is assigned to the identified front-end server (figure 19A Col. 17 Ln. 37 – 50), and if it is not, establishing an association between i) the attribute-based category of the received transaction and ii) the identified front-end server (figure 23 Col. 18 Ln. 51 – 67). Also see the rejection of claim 1 above.

26. As to claim 28, Kanai teaches a method as in claim 27, further comprising: if the identified front-end server establishes an association between itself and an attribute-based category, broadcasting this association to a plurality of workload managers that can route transactions to the identified front-end server ("...registered..." Col. 25 Ln. 39 – 49).

27. As to claim 29, Kanai teaches a method as in claim 28, further comprising: upon a workload manager's receipt of said broadcast association, the workload manager updating its own table of assignments between attribute-based categories and front-end servers (Col. 25 Ln. 39 – 46).

**28. Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,128,657 to Okanoya et al. in view U.S. Pat. No. 6,092,178 to Jindal et al. and further in view U.S. Pat. No. 5,864,679 to Kanai et al. of as applied to claim 1 above, and further in view of U.S. Pat. No. 6,681,244 B1 to Cross et al.**

29. As to claim 9, Okanoya is silent with reference to a method as in claim 1, further comprising: determining a status of an attribute-based category; and deallocating said attribute-based category from said front-end server to which it is assigned when said status is inactive.

Cross teaches a method as in claim 1, further comprising: determining a status of an attribute-based category; and deallocating said attribute-based category from said front-end server to which it is assigned when said status is inactive (Col. 6 Ln. 15 - 27).

It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cross, Kanai, Jindal and Okanoya because the teaching of Cross would improve the system of Kanai, Jindal and Okanoya by regulating client routing (Cross Col. 6 Ln. 15 - 27).

30. As to claim 19, see the rejection of claim 9 above.

**31. Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,128,657 to Okanoya et al. in view of U.S. Pub. No. 2002/0161917 A1 to Shapiro et al.**

32. As to claim 30, Okanoya teaches a method for routing a transaction to a front-server, comprising: identifying at least one attribute-based category for said transaction (S52 "...search key..." Col. 11 Ln. 8 - 21), attempting identifying at least one of a plurality of front-end servers to process said transaction based at least in part on said identified attribute- based category of said transaction (S54 "...selects some candidate servers..." Col. 11 Ln. 19 – 21); at least in part on said front-end servers being assigned to execute transactions corresponding to said attribute-based category (Col. 11 Ln. 59 – 67); and routing said transaction to one of said at least one identified front- end servers (S57 Col. 11 Ln. 36 – 39); one or more of said front-end servers, maintaining its own table of attribute-based categories for transactions that it has processed; for each attribute-based category in its table, maintaining an indication of when a transaction corresponding to the attribute-based category was last processed by the front-end server (State Manager 111 Col. 11 Ln. 59 – 67).

Okanoya is silent with reference to after a predetermined time of not processing a transaction corresponding to an attribute-based category in its table, broadcasting an indication of this event to a plurality of workload managers that can route transactions to the front-end server.

Shapiro teaches after a predetermined time of not processing a transaction corresponding to an attribute-based category in its table, broadcasting an indication of this event to a plurality of workload managers that can route transactions to the front-end server ("...poor goodness..." page 6 paragraphs 0070/0071).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Shapiro and Okanoya because the teaching of Shapiro would improve the system of Okanoya by dynamically routing data within a network such that a node determines an efficient method of transmitting the data based on the routing information, and transmitting the data to a neighbor node based on the determination of the efficient method (Shapiro page 1 paragraph 0009).

33. As to claim 31, see the rejection of claim 29 above.

34. As to claim 32, Shapiro teaches an apparatus as in claim 10, further comprising program code to update, in response to broadcast indications from said front-end servers, a table of which attribute-based categories are assigned to which front-end servers, said table being maintained by and for a particular workload manager (page 6 paragraphs 0070/0071).

### ***Response to Arguments***

Applicant's arguments filed 6/13/06 have been fully considered but they are not persuasive.

Applicant argues in substance that (1) the claim amendments does not add new matter, (2) the Kanai prior art does not teach how to assign a new attribute-based category to a front-server because the Kanai prior art is only concerned with how to route a newly arrived transaction, (3) the Kanai prior art does not teach a user table for

assigning at least one attribute-based category to a transaction, (4) the Cross prior art does not teach the switch as a front-server and the switch does not relate to a transaction routing, and (4) the Shapiro prior art does not teach attribute-based transaction routing, assignment or broadcasting.

Examiner respectfully traverses Applicant's arguments:

As to point (1), although this claim limitation ("...when no front-end server is identified, (i) routing said transaction to a default one of the front-end servers...") is disclosed, it was not claimed before the amendment of June 9, 2006 and as such adds new matter to the claims.

As to point (2), as required by the invention as claimed, after determining when a new attribute-based transaction is new, the new attribute-based transaction is assigned to one of a plurality of front-server. This claim limitation is covered by the Kanai prior art because it provides a data arrangement table that stores data relating to a new transaction such that when a new transaction is received the data is used to select an associated transaction processor (Col. 14 Ln. 56 – 67, Col. 15 Ln. 1 – 7). For the data to be used to select an appropriate transaction processor it has to have been assigned to the transaction processor otherwise, the transaction processor could not have been selected using the data of the data arrangement table.

As to point (3), the Cross prior art is analogous to the instant invention because they both describe how to rout transaction/request/message between a client and server. Specifically, claims 9 and 19 are related to the de-allocation of a transaction/request/message from its allocated server when it is determined that the

Art Unit: 2194

transaction/request/message is inactive. The Cross prior art covers this limitation removing a machine address/IP address associated with a request packet/client when it is determined that the machine address/IP address is inactive.

As to point (4), the invention as claimed requires notifying/broadcasting to workload managers when a transaction has not been processed after a predetermined time. The Shapiro prior art meets the requirement by providing a dynamic updating process that periodically monitors data traffic flow around a network to determine network node degradation and subsequently notifying/broadcasting same to plural nodes.

### ***Conclusion***

35. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E. Anya whose telephone number is (571) 272-3757. The examiner can normally be reached on M-F (8:30-6:00) First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, An Meng-Ai can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles E Anya  
Examiner  
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cea.

  
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